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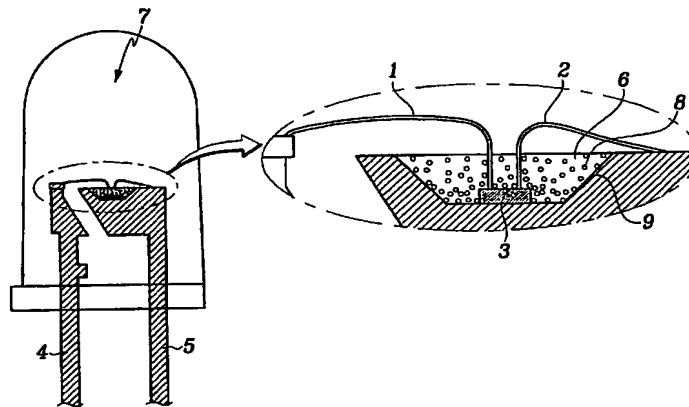
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(54) Title: TB,B-BASED YELLOW PHOSPHOR, ITS PREPARATION METHOD, AND WHITE SEMICONDUCTOR LIGHT EMITTING DEVICE INCORPORATING THE SAME.



(57) Abstract: The present invention relates to a terbium borate-based yellow phosphor, a preparation method thereof, and a white semiconductor light emitting device incorporating the same. The terbium borate-based yellow phosphor of the present invention is represented by the general formula $(\text{Tb}_{1-x-y-z}\text{RE}_x\text{A}_y)_3\text{D}_b\text{B}_5\text{O}_{12}:\text{Ce}_z$ (where, RE is at least one rare earth element selected from the group consisting of Y, Lu, Sc, La, Gd, Sm, Pr, Nd, Eu, Dy, Ho, Er, Tm and Yb; A is a typical metal element selected from the group consisting of Li, Na, K, Rb, Cs and Fr; D is a typical amphoteric element selected from the group consisting of Al, In and Ga; $0 \leq x < 0.5$; $0 \leq y < 0.5$; $0 < z < 0.5$; $0 < a < 5$; and $0 < b < 5$). The white semiconductor light emitting device of the present invention comprises a semiconductor light emitting diode and the yellow phosphor, which absorbs a portion of light emitted by the semiconductor light emitting diode and emits light of wavelength different from that of the absorbed light. It offers white light from the combination of the light emitted by the semiconductor light emitting diode and the light emitted by the yellow phosphor. The white semiconductor light emitting device of the present invention offers a greatly improved color rendering and experiences less deterioration in light emission efficiency over a long period of service.